

CONTROL STRATEGY FOR LEAN NO_x TRAP REGENERATION

ABSTRACT OF THE DISCLOSURE

A method for controlling regeneration of a lean NO_x trap includes estimating an accumulated NO_x in the lean NO_x trap; determining whether the estimated NO_x exceeds a first threshold value or a second threshold 5 value; estimating the temperature of the lean NO_x trap; determining whether the estimated temperature exceeds a threshold temperature; determining a desired air-fuel ratio for initiating a regeneration event, the desired air-fuel ratio being determined based upon the estimated NO_x and the estimated temperature of the lean NO_x trap; hastening the occurrence of a regeneration event when the 10 estimated NO_x exceeds the first threshold value through active control of engine operating regimes; and initiating a regeneration event when the estimated NO_x exceeds the second threshold value or when the estimated temperature exceeds the threshold temperature by forcing homogenous operation of the engine at the desired air-fuel ratio.

15